

# Forest Habitat Restoration Strategies

Amy LaBarge, Senior Forest Ecologist  
SPU Watershed Management Division



# Restoration to Mimic Effects of Natural Processes

## FOREST SUCCESSION

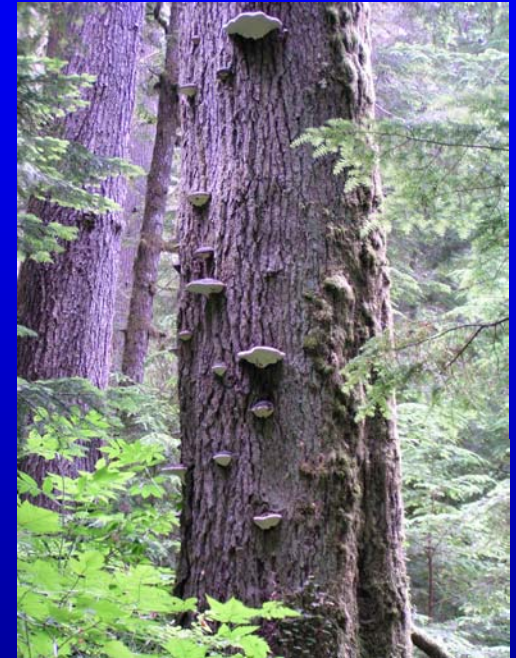
- accelerate development of complexity and diversity

## DISTURBANCE

- small to moderate scale
  - wind, disease, insects

## DISPERSAL & ESTABLISHMENT

- flora (lichens, mistletoe)
- fungi



# HCP Forest Habitat Restoration includes...

- Protection
  - majority of watershed
  - areas developing well
- Ecological thinning
  - older than 30 years
- Restoration thinning
  - younger than 30 years
- Restoration planting
  - areas lacking diversity



Restoration thinning near old growth

# Addressing Risk and Uncertainty

- Consult literature and experts
- Acknowledge uncertainty
- Monitor projects - measure forest criteria
  - Trees, snags, down wood, shrubs, herbs, cryptogams
  - Compare treated and untreated areas
- Practice active learning (adaptive management)
- Characterize habitat change over time

# Example: 700 Road Forest Habitat Restoration Project

- Objectives:
  - increase habitat complexity and variability
  - affect forest light regime
- Techniques
  - Protection (leave untreated areas)
  - Variable density thinning\*
  - Snag and down wood retention and creation
  - Gap creation and skip retention\*
  - Restoration planting\*
  - Landscape connectivity (proximity to old growth)

# Forest Habitat Restoration Techniques

- Variable density thinning
  - spatial variability
  - patchiness
  - retain diverse tree sizes



45 Road Forest  
Restoration Project

- Affect light & soil resources
  - overstory and understory growth response



# Forest Habitat Restoration Techniques (continued)

- Create small gaps
- Retain “skips”
- Consider landscape connectivity



Wind created canopy gaps, December 2003

# Forest Habitat Restoration Techniques (continued)

- Restoration planting
  - Trees, shrubs, herbs
  - Lichens
  - Mistletoe
  - Fungi
  - Communities

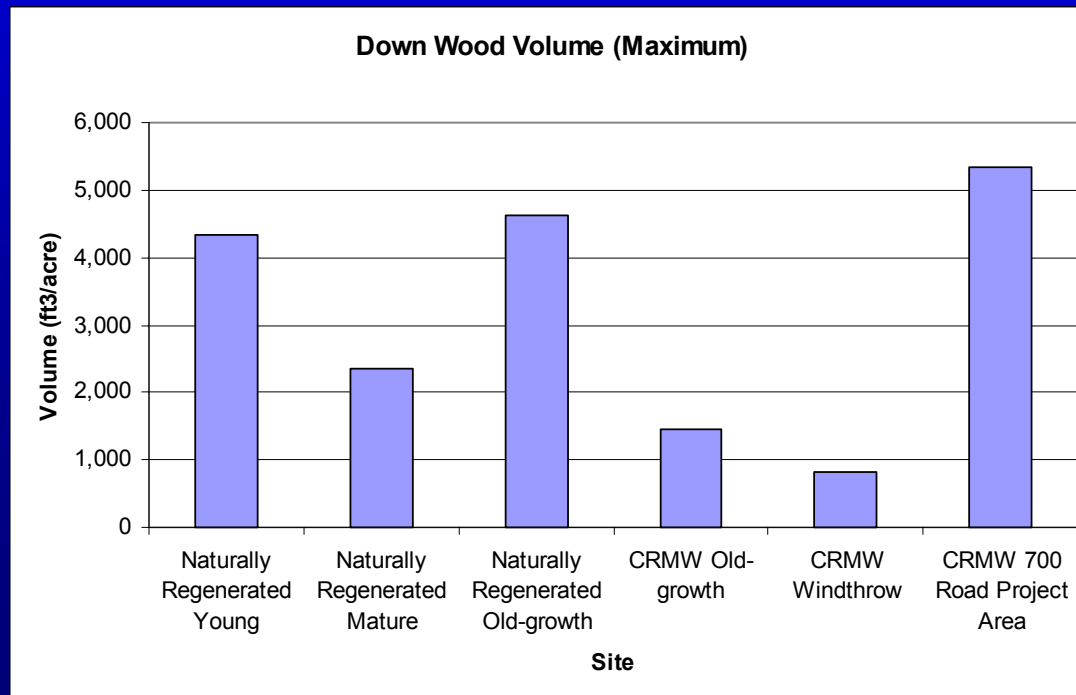


# Forest Habitat Restoration Questions

- Why kill “big” trees?
  - Relate tree size to specific forest conditions
  - Open forest canopy to affect light
  - Retain diverse tree sizes
  - Leave large trees to continue growing
  - Retain trees for snag & down wood recruitment
  - Be conservative

# Forest Habitat Restoration Questions (continued)

- Why remove trees from forests?
  - Compare to unmanaged forest conditions
  - ecological considerations



# Forest Habitat Restoration Questions (continued)

- Why thin in “older” forests?
  - Forest condition more important than age
  - Live crown and growth response
  - Best opportunity to provide habitat
- How to protect against windthrow?
  - Be conservative
  - Consider height to diameter ratios

# Forest Habitat Restoration Questions (continued)

- Why plan large project areas?
  - Habitat for species with moderate home ranges
  - Cost effectiveness
- How to distribute project areas?
  - Larger project areas vs. scattered treatments

# HCP Forest Habitat Restoration Program Summary

- Mimic natural processes
- Acknowledge uncertainty
- Use science as a guide
- Apply best current techniques
- Use variety of approaches
- Monitor effects over time
- Change approach as needed (adaptive management)

